

SEMINAR REPORT



What Climate Change Brings to the Development Education Agenda

Facilitated by:
David Selby
Sustainability Frontiers

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The Junction
Derry, N. Ireland

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Acknowledgements

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Introduction

This seminar was organised by the Centre for Global Education and facilitated by David Selby as part of the Centre’s larger *Building Capacity in Development Education* project, supported by Irish Aid. The project aims to enhance practice, improve communication and strengthen capacity in the development education sector. It also aims to increase opportunities for reflection on practice and networking among practitioners. The project consists of three key activities:

- A bi-annual development education journal: *Policy & Practice: A Development Education Review*;
- An annual conference; and
- Two development education seminars per annum.
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The seminars are small events that focus on areas of interest to development educators. They have ranged from theoretical and research based seminars on topics such as ‘Teaching Global Issues in the Classroom’ to more practical training events such as the recent ‘Introduction to Graphic Recording’ seminar and the ‘What Climate Change brings to the Development Education Agenda’. The events aim to address specific training and information needs of the sector, and have in the past served to launch individual issues of the journal.

The annual conference is a larger event that looks at an overarching theme pressing to the development education sector. It includes inputs from noted development and development education practitioners, and also provides a forum and opportunities for participants to network and debate current development education policies and practice.

The journal serves as a more formal vehicle for discussion and debate. It features contributions from development and development education practitioners from the island of Ireland, the United Kingdom, the European Union, North America and the developing world. The diversity of contributors helps the sector to widen their understanding of the delivery and effectiveness of development education at local and international levels. The journal publishes articles on current research initiatives, methodologies and good practice and enables readers to learn from the knowledge and experience of others.

What is the Centre for Global Education?

The Centre for Global Education (CGE) was established in 1986 by eight development agencies to provide education services that enhance awareness of international development issues. Its central remit is to challenge dominant stereotypes and commonly held perceptions of developing countries which are prevalent in our society. It aims to use education as a means of challenging the causes of poverty and inequality in both local and global contexts by working with all sectors of education. In addition to the Building Capacity in the Development Education Sector in Ireland project, the Centre for Global Education also delivers the Making Connections Project, which delivers a new accredited training programme for the ethnic minority sector on global education, and for the past three years housed the Global Dimension in Schools Northern Ireland project, which supports teachers in Northern Ireland to deliver the Northern Ireland Curriculum by incorporating global perspectives into their learning areas.

For more information on the Building Capacity project, its components, or the Centre for Global Education, please contact Jenna Coriddi, Training and Research Officer: tel: +44 (0)28 9024 1879, email: jenna@centreforglobaleducation.com.

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Aims

This seminar aimed to demonstrate the inextricable nature of climate change and global development issues, and urge participants and their target audiences that a radical change in our lifestyles is needed. David Selby argued that runaway climate change calls for a serious revisiting of the assumptions, key messages, frameworks and focuses of development (and global) education. It cannot be pushed aside by development educators as an ‘environmental’ issue and therefore not relevant to their area of concern. The seminar demonstrated how the climate threat raises fundamental questions about the human condition that are central to development education and to all its ‘sister’ educations.

The seminar also aimed to provide participants with a range of activities and discussions that could be used with a variety of target audiences to increase awareness and activism around climate change issues. A portfolio of activities for use in teacher and community education and the classroom was provided for participants.

The Centre for Global Education felt that a seminar explicitly looking at links between climate change and development education would be useful as more practitioners realise that it is impossible to extract one from the other in educating about the issues facing our world today. Practitioners working primarily in development education might also feel unprepared to address climate change issues as their training and work has always primarily focused on the human development and social justice side. This seminar was organised to increase participants’ comfort in addressing climate change issues while maintaining links with the human development aspects, while providing specific tools and activities to use following the seminar.

David began the seminar by describing how climate change is and will continue to affect ourselves, and asking how we can trigger transformative learning. He asked participants to think about what processes we use to address these changes.

Presentation



David provided inputs of information, along with quotes to demonstrate the urgency of the issues, followed by activities for the group. The inputs of information and quotes are below. For those interested in the activities demonstrated at the seminar, please contact David Selby at Sustainability Frontiers for more information.

Input 1: The heating is happening...

“Global atmospheric concentrations of carbon dioxide, methane and nitrous oxide have increased markedly as a result of human activities since 1750.... The global increases in carbon dioxide concentration are due primarily to fossil fuel use and land-use change ...”

“Warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea level” (IPCC , Climate Change 2007: The Physical Science Basis, 2007).

‘We have a short period - a very short period - in which to prevent the planet from shaking us off’ (George Monbiot, 2006).

‘We have only four years left to act on climate change’ (James Hansen, NAASA, to incoming President Obama, 2009).

‘Our future is like that of passengers on a small pleasure boat above the Niagara Falls, not knowing that the engines are about to fail’ (James Lovelock, 2007).
‘The time is already five minutes past midnight’ (Konrad Steffan, 2007).

‘Climate change is coming faster and rougher than scientists have expected’ (Joseph Romm, 2007).

HISTORY OF THE TWENTY-FIRST CENTURY

- 2005-2025 - REAP THE WHIRLWIND
- 2025-2050 - PLANETARY PURGATORY
- 2050-2100 - HELL AND HIGH WATER (Joseph Romm, Hell and High Water, New York, William Morrow, 2007).

Actual and looming impacts of global heating:

- Ubiquitous environmental disaster (including decline in biodiversity)
- Sea incursion; seasonally recurring wildfire; desertification
- Resultant massive internal and external population displacement
- Hunger and starvation
- Social dislocation; internecine strife; violent conflict tribalism, aggressively defensive localism; ever-lurking danger of genocide

Impacts of climate change so far: some examples

- Several hundred million people are seriously affected by climate change today, with several hundred thousand annual deaths
- Over 900 million are chronically hungry today - many of them due to climate change
- More than ten million people have fallen into poverty today because of climate change
- Climate change makes water scarce and unfit for human consumption today
- Today there are about 26 million Climate Displaced People (Global Humanitarian Forum, The Anatomy of Silent Crisis, 2009; New Internationalist, January/February, 2009)

Future predictions

- 375 million people may be affected by climate-related disasters by 2015; some 600 million by 2030
- 200 million people maybe be on the move each year by 2050 because of hunger, environmental degradation, and loss of land (Oxfam International, 2009)

Adaptation v. Mitigation

Those calling for climate change **adaptation** want modifications to be made to the environment surrounding us and the way we live so that the effects of climate change do not hit us, and our way of life, so hard.

They also want to adapt so we can exploit some benefits of a warmer climate. Adaptation is built on the idea of 'business as usual' - we change the way we do things but keep life and society as recognizably the same. It is about learning to live with climate change and making ourselves less vulnerable to its effects.

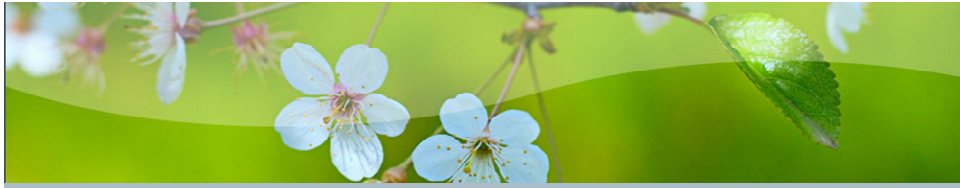
As a result, ideas for adaptation tend not to be so controversial.

Those calling for climate change **mitigation** want to 'mitigate' (reduce the degree of) climate change by significantly transforming the way we live our lives now so that the threat of future climate change becomes much less stark.

The types of behavior and lifestyle change they suggest are mainly aimed at putting far less greenhouse gas, especially carbon dioxide (CO₂), into the atmosphere by burning less fossil fuel (coal, oil, natural gas).

Those favoring mitigation often argue that adaptation alone can never be enough to save us from the effects of climate change and that adaptation 'stitches in time' will not stop much of the planet becoming unable to maintain large-scale human society.

Because mitigation proposals often threaten the way of life people - especially those in wealthy countries - have become accustomed to, they often cause controversy.



Climate change is not just a problem for the future. It is impacting us every day, everywhere'

Shiva, V., *Soil Not Oil*, 2008

Input 2: Climate change injustice

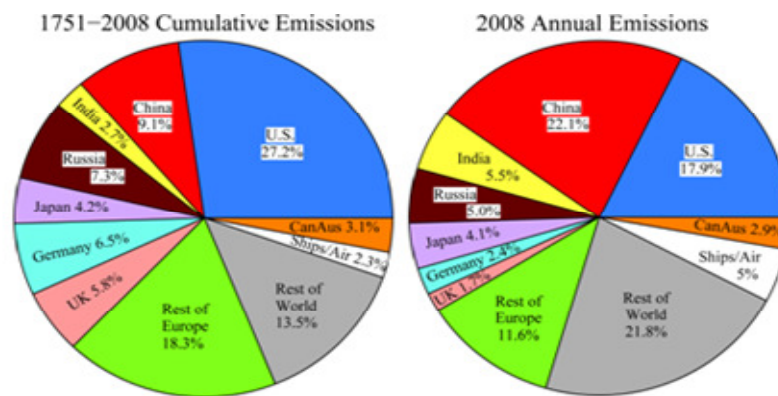
Countries of the South are held to account for their financial debt (the 'debt crisis') BUT There is no commensurate holding to account of the countries of the North for their ecological indebtedness. The North has enclosed the 'global atmospheric commons' without due restitution.

'The tragedy of the atmospheric commons has been the lack of rights to this global ecological space. As a result industrialized countries have borrowed heavily and without control. They have emitted greenhouse gases far in excess of what the earth can withstand, 'free riding' on the planet's natural capital' (Sunita Narain).

Who is being affected?

- In 2000 climate change was causing 150,000 deaths worldwide
- 'Natural' disasters are increasing in frequency and severity. Since the mid-1970s, storms of the force of Hurricane Katrina have almost doubled
- An estimated 90% of all those killed - and 98% of those affected - by natural disasters live in Asia and Africa. Developing countries are most at risk.
- Between 1996 and 2005, disasters caused \$ 667 billion in direct losses to people worldwide. Losses were 20 times greater in developing countries (New Internationalist, January/February 2009).
- Women account for two-thirds of the world poor. 70-80% of agricultural workers are women, who are largely responsible for water collection and serve as the primary care taker in a household. They are compelled to work harder as their health deteriorates and working conditions worsens
- 75% of deaths in climate disasters are female

- Women are more vulnerable to climate related displacement (e.g. victims of trafficking and violence) (Oxfam 2009; Global Humanitarian Forum, 2009; UNICEF 2008)



From James Hansen, *Storms of My Grandchildren*, 2009, p.189

‘Those who suffer most from climate change have done the least to cause it...’

‘Impacts of climate change will fall disproportionately upon developing countries and the poor persons within all countries, and thereby exacerbate inequities in health status and access to adequate food, clean water, and other resources’ (IPCC, 2002).

‘Just 23 rich countries, home to only 14% of the world’s population, have produced 60% of the world’s carbon emissions since 1850. Today they produce 40% of the world’s total. Despite committing to reduce annual emissions to below 1990 levels by 2010, their collective emissions are continuing to rise’ (Internationalist, January/February 2009).

‘In response to climate change, the word ‘adaptation’ has become part of standard vocabulary. But what does ‘adaptation’ mean? For most people in rich countries, ‘adaptation’ has so far been a relatively painfree process. Cushioned by heating and cooling systems, they can ‘adapt’ to extreme weather with the flick of a thermostat. Now consider what ‘adaptation’ means for the world’s poorest. How does an impoverished woman farmer in Malawi ‘adapt’ when more frequent droughts and less rainfall cut her crop? ‘Adaptation’ means social injustice on a global scale. Put bluntly, the world’s poor are being harmed through a problem that is not of their own making’ (Desmond Tutu, *Total Complacency*, in Kagawa, F. & Selby, D. (eds.) *Education and Climate Change*, 2010).

‘The ground question here is who compensates? Because we are not culpable for climate change. It is not fair that a country like Bolivia, which emits 0.02 per cent of global greenhouse emissions, already has annual economic losses from the

impacts of climate change equivalent to 4 per cent of our GDP' (Oscar Paz, Director of Bolivia's National Climate Change Programme, May 2009, Cited in Oxfam, 2009).

UN Convention on the Rights of the Child

- Survival Rights: rights that ensure we survive and grow
- Development Rights: rights that enable us to develop the varied aspects of ourselves (thinking abilities, ability to distinguish right from wrong, social abilities, play and leisure interests, cultural and religious practice, etc.)
- Protection Rights: rights that protect us from harmful treatment and influences
- Participation Rights : right that allow us to express what we think, to have a say about things that affect us, and to play an active part in society

Input 3: Climate Change Denial

The Myths We* Tell Ourselves

[*i.e. the people of the North and the elites of the South]

- The Myth of Unending Growth
- The Myth of Progress
- The Myth of Human Centrality to Existence
- The Myth of Separation from and Dominance over Nature

Cognitive dissonance

- The uncomfortable feeling caused by holding two contradictory ideas
- Thinking and behaving in ways that reveal a gulf between their 'talk' and their 'walk'
- When what we are saying and how we are behaving is contradicted by evidence and own opinions, but still resist amending what we say or do

'Confronted by ever more dire accounts of a global climate lurching towards ever-deepening crisis and of the implications for the human condition, we engage in cognitive dissonance, processes in which the human psyche, while rationally acknowledging the threat we face, uses devices such as prevarication, pleasure seeking or quixotic hopefulness to avoid or slow an appropriate or proportionate response' (Kagawa & Selby, *Green Teacher*, 2011)

Various forms of climate change denial

- Diversion
- De-problematizing or reinterpretation of the threat
- Indifference
- Pleasure-seeking
- Blame shifting; denigrating the 'out group'
- The false sense of hope (Lynas, M. 2008; Hamilton, C. 2010)

The 'industrial growth society'

- Cannot last in that 'it is inexorably and exponentially destroying itself'
- Evidence of 'systemic runaway' that should 'rivet our attention, summon up the blood and bond us in collective action'
- Apatheia: the inability or refusal to experience pain (Joanna Macy & Molly Young Brown, *Coming Back to Life: Practices to reconnect our lives, our world*, 1998)

'Psychology as much as science will thus determine the planet's fate, because action depends on overcoming denial, among the most paralysing of human responses.

Rather than facing the truth, denial's victims choose slow suicide. In a similar way, by pursuing lifestyles and economic goals that ravage the environment, we sacrifice long-term health and well-being for immediate gratification - a trade-off that cannot yield a happy ending' (Sandra Postel, *Denial in the decisive decade*. In Brown, L.R. & L. Starke (eds.), *State of the world 1992*, New York, Norton).



**Go, go, go, said the bird: human kind
cannot bear very much reality.**

T.S. Elliot, *Four Quartets* (Burnt Norton)



Guidebook for Survivors

“One thing we can do to lessen the consequences of catastrophe is to write a guidebook for our survivors to help them rebuild civilization without repeating many of our mistakes.”

-Lovelock, J., *Revenge of Gaia*, 2006

Input 4: Climate Change as a Profound Crisis in the Human Condition

Underlying causes of climate change

- **Growth and technology myths**
 - Uncritical and tacit embrace of unrestrained economic growth of continued globalization, including lack of consideration of development alternatives - ‘slow’ or ‘no’ growth, ‘autopoetic development’ (i.e. self-generating and self-regulating development)
 - ‘Whatever the social problem, the answer is always more growth’ - Hamilton, C. *Requiem for a Species*. 2010
 - Progress is measured by GROSS Domestic Progress growth
 - Belief in technological solutions or ‘fixes’
- **Consumerism**
 - A ‘value structure that emphasizes the importance of material possessions and the pursuit of personal wealth’
 - Personal identity shaped by consumption
 - Insecurity and groundlessness
 - Self-focused, individualistic, rather than community focused and cooperative
- **View of nature**
 - Embracing an instrumentalist and utilitarian view of nature (nature as ‘resource’; environment as subset of development)

- Assumptions that the Earth's resources are infinite and that humans have a right to exploit them
- Human alienation from nature, especially the weather, through the process of urbanization
- Denial of intrinsic value of the natural world
- Climate injustice is in part 'speciesism' (injustice to other than human species)

'Business as usual' climate change education

- A focus on the science of global warming rather than ethics and values issues (the axiological learning deficit)
- An absorption with technical fixes in aid of mitigation and adaptation
- Reluctance to explore the culpability of neo-liberal economic growth models, and to address alternative slow growth and no growth models
- A resulting tendency to characterize the global warming crisis in terms of overtly presenting symptom, i.e. as a CO2 problem curable within present mainstream terms of reference
- A concomitant reluctance to explore climate change as a crisis of an ethically numb, inequitable and de-natured human condition
- Avoidance of envisioning personal and societal climate change scenarios likely to be played out in the learner's lifetime



What does climate change mean for development education?

Transformative Climate Change Education: An Agenda

Agenda Item 1:

Given the climate crisis that is already upon us, and given the looming prospect of it deepening still further, silently and incrementally but also abruptly and ficklely, climate change education needs to confront denial and address despair, pain, grief and loss

Agenda Item 2:

Given the powerful wave of neo-liberalism rolling over the planet, destructive of the ecosphere and ethnosphere, climate change education needs to offer alternative conceptions of the 'good life', combat consumerism, and help learners explore and experience alternatives to the growth economy.

Agenda Item 3:

Reversing the predominant, instrumental and exploitative 'nature as resource' philosophy, climate change education needs to embrace a philosophy of intimacy with, and embeddedness in, nature not least through the cultivation of the poetic

Agenda Item 4:

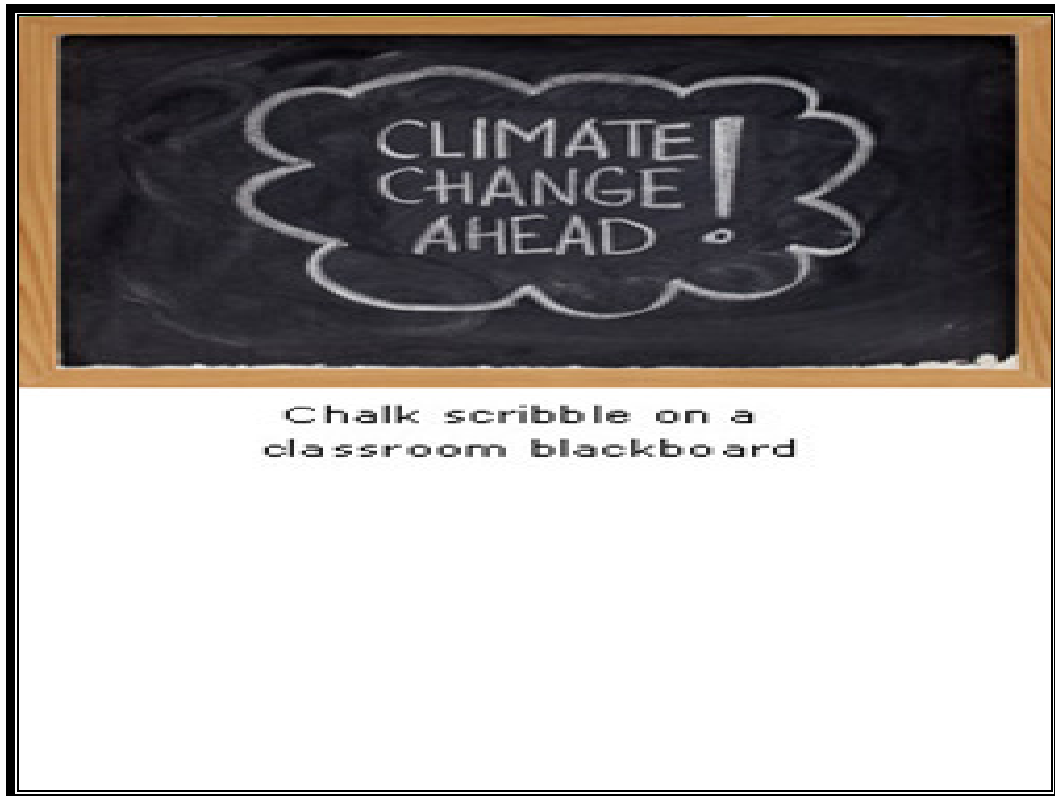
Climate change needs to go where ESD has largely shrunk from going by drawing upon insights from nonviolence/peace education, social justice education and emergency education.

Agenda Item 5:

Transformative climate change calls for a localization of focus.

What climate change brings to the development education agenda

- It asks whether development education is critical enough of economic growth and its effects - and openly critical enough
- In so doing, it asks for a revisiting of what is meant by 'development' and 'sustainable development' (and lays on the table alternative ideas such as 'sustainable contraction' and 'sustainable moderation')
- It asks if development educators are sufficiently conflating development and environmental themes and issues
- It asks if development education is offering a sufficiently root and branch critique of consumerism
- It asks that development education helps break through the cognitive dissonance surrounding what is happening to the planet
- So it asks that development education helps effect transformation by having learners confront grief, pain and loss
- It asks that development education play its part is remedying the 'disassociation of sensibility' afflicting the human condition
- It looks to globalism rather than globalization and suggests the local and the community as a key focus for engagement



Discussions

Throughout the day participants engaged in a range of discussion, some excerpts of which are included below:

What is your perception of climate change?

'People in developed countries are least well-equipped'.

'Opportunity to engage people, ways to take action build on the notion of interdependence'.

'So much information, what will we do to change?'

'What's the morality of climate change? The agenda needs to move away from 'whose fault' is it to define our relationships going forward'.

'How do I develop my responsibility as a member of a very privileged group?'

'This is a very personal issue for me, but I'm aware that it's much wider'.

'I'm looking at the issue of responsibility, the 'butterfly effect' and how our actions affect people around the world'.

'There's seriously something wrong here!'

'Everyone has a responsibility to bring about change'.

'We're moving too slowly'.

Overall people felt the issue of responsibility came throughout the issue of climate change, and how to move past our comfort zone to actually make a difference.

Have you dealt with climate change personally?

Overwhelmingly the group said, no they hadn't. They also mentioned how odd weather changes are often explained by climate change despite most of us not being old enough to be able to take into consideration the earth's 60 year climate cycle. Personal experiences with climate change included varying flowering times, lack of distinct seasons, birds and other fauna arriving at different times, and increased heat periods.

What are your hopes and fears regarding climate change:

Hopes: To learn from past mistakes, for the whole human race to come together and possibly overcome differences, a spiritual revolution; the hope that we will change.

Fears: Missed opportunities, future conflicts, our children's futures, no shared responsibilities, haven't identified the tipping point; the fear that we won't change.

What is your main question regarding climate change education?

'How can I make it real for people?'

'Where do we start?'

'How can I make it manageable for people?'

'How do we take the next step to getting business, industry, government to change?'

'How do we take the fear out of it?'

'Do our small steps make a difference?'

'How do we interlink climate change with everything else?'

'Why does it even matter?'

'How do I not get overwhelmed?'

'How do you make it instinctive in people after a lifetime of bad habits?'

'Are our formal education systems appropriate vehicles for the transformative radical changes that need to be met?'

The day finished with an in-depth discussion on how participants feel that climate change could be integrated into their development education work, agreeing that the two issues are inseparable and that major changes need to be made to the way we live our lives.

Appendix A: Evaluation

‘I was interested in how to turn the despair and cynicism I often feel into positive action and even optimism. I feel I received beyond my expectations in today’s seminar, and the information will be useful for future workshops and talks, especially within the Transition Town movement.’

‘I liked the information and facts presented by David. He was a lovely facilitator, however a few times I felt quite disempowered as a development educator, activist and optimist.’

‘I was interested in a different method of approaching climate change in education.’

‘I enjoyed the discussion on DE and sustainable growth. There are lots of possibilities for linking climate change and development education.’

‘I can adapt these methods for various age groups very easily.’

‘I loved how the facilitator used body, mind and emotion to highlight the issues.’

‘I enjoyed the approach; it was multi-disciplinary and not just symptom/solution-based.’

‘The activities linked climate change with development education, and demonstrated the inherent interdependence of humans and nature.’

‘Very good activities - diverse for all types learning styles.’

‘I was interested in information on climate change and the use/introduction to terms such as adaptation/mitigation/global heating, and also touching base with others in the field of education.’

‘Today’s seminar will motivate me to learn and revise more myself.’

‘The seminar presented a lot of information and interesting approaches to dealing with these issues in an educational forum.’

‘The venue was a great space for the numbers.’

‘We didn’t go too far into the science of climate change which was fine; we stayed with the educational necessities.’

Appendix B: Participant List

Fergal Barr	Inside Out
Jenna Coriddi	Centre for Global Education
Deirdre De Burca	CBM Ireland
Lorraine Flanagan	Environmental Education Unit
Marella Fyffe	Glenhordial Permaculture Farm
Phyllis Graham	
Leslie Hoyng	
Tony Kearney	
Charo Lanao-Madden	Centre for Global Education
Stephen McCloskey	Centre for Global Education
Mark McDermott	
Kirstin McLaughlin	
Siuan McLaughlin	Derry Playhouse
Caroline Murphy	University of Ulster
Deidre O'Hara	
Grainne O'Neill	Children in Crossfire
Anja Rossler	Glenhordial Permaculture Farm

Appendix C: Facilitator information

David Selby is a Founding Director of Sustainability Frontiers and Adjunct Professor at Mount St Vincent University, Halifax, Nova Scotia, Canada. He was previously Professor of Education for Sustainability and Director of the Centre for Sustainable Futures, University of Plymouth, United Kingdom, and, before that (1992-2003), Professor of Education and Director of the International Institute for Global Education at the Ontario Institute for Studies in Education of the University of Toronto, Canada. He is a citizen of both Canada and the United Kingdom.

David has a long-standing international reputation for his teaching and writing on the theory and practice of environmental, global, humane, human rights, life skills, and sustainability-related education. More recently he has become known for his path finding writing in the emerging field of climate change education.

His co-authored book, *Global Teacher, Global Learner* (1988), remains a path finding volume in the field of global education, while his book, *EarthKind* (1995), first thoroughly mapped out the field of humane education. More recent works include: *Global Education: Making Basic Learning a Child-friendly Experience* (1999); *Weaving Connections: Educating for Peace, Environmental and Social Justice* (2000); *New Century, New Belongings: Essays in Global Education* (2002); *Green Frontiers: Environmental Educators Dancing Away from Mechanism* (2008); *Education and Climate Change: Living and Learning in Interesting Times* (2010); *Sustainability Education: Perspectives and Practice across Higher Education* (2010). His books and articles have been translated into a range of languages: Arabic, Chinese, Czech, German, Japanese, Korean, Norwegian, Portuguese, Russian and Spanish.

David has lectured and facilitated seminars and workshops on environmental, global and sustainability-related education in some thirty-two countries as well as for various United Nations organisations. He has been a consultant to UNESCO, UNICEF and the International Development Research Council of Canada, a Visiting Fellow at the University of Minnesota, a Visiting Lecturer at the Free and Technical Universities of Berlin, and a Visiting Professor at Daito Bunka University, Tokyo.

Appendix D: Bibliography

Global Humanitarian Forum (2009) *Climate Change - the anatomy of a silent crisis*, Global Humanitarian Forum Human Impact Report, Geneva.

Hamilton, C (2010) *Requiem for a Species: Why we resist the truth about climate change*, Earthscan, London.

Hansen, J (2009) *Storms of my grandchildren: The truth about the coming climate catastrophe and our last chance to save humanity*, Bloomsbury, London.

Kagawa, F & David S (eds.) (2010) *Education and Climate Change: Living and learning in interesting times*, Routledge, New York.

Kagawa, F & David S (2010) 'Runaway climate change as challenge to the 'closing circle' of education for sustainable development' in *Journal of Education for Sustainable Development*, Vol.4, 1, March 2010, pp. 37-50.

Kagawa, F & David S (2011) *Unleashing blessed unrest as the heating happens*, Green Teacher, forthcoming.

Kolbert, E (2007) *Field Notes from a Catastrophe: A frontline report on climate change*, Bloomsbury, London.

Lovelock, J (2006) *The Revenge of Gaia: Why the earth is fighting back - and how we can still save humanity*, Allen Lane, London.

Lynas, M (2007) *Six Degrees: Our future on a hotter planet*, Fourth Estate, London.

Macy, J & Young-Brown, M (1998) *Coming Back to Life: Practices to reconnect our lives, our world*, New Society, Gabriola Island.

Monbiot, G (2006) *Heat: How to stop the planet from burning*, Doubleday Canada, Toronto.

Narain, S (2009) 'A million mutinies' in *New Internationalist*, Vol. 419 January/February 2009, pp. 10-11.

Postel, S (1992) 'Denial in the decisive decade' in Brown, LR & Starke, L (eds.) *State of the World 1992: A Worldwatch report on progress towards a sustainable society*, W.W. Norton, New York, pp. 3-8.

Romm, J (2007) *Hell and High Water: Global warming - the solution and the politics - and what we should do*, William Morrow, New York.

Shiva, V (2008) *Soil Not Oil: Climate change, peak oil, and food Insecurity*, Zed, London.